

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A data switching device ~~comprising~~ comprising:
inputs for guaranteed throughput and best effort data,
outputs,
a data switch interconnecting the inputs and outputs,
guaranteed throughput control means coupled for controlling a guaranteed throughput data ~~scheduling and scheduling~~,
best effort control means coupled for controlling a best effort data scheduling,
~~characterized in that wherein~~ the guaranteed throughput and best effort control means are arranged for a combined control such that the best effort data scheduling is based on a contention free guaranteed throughput scheduling, and
at least one guaranteed throughput input buffer coupled to at least one data switch input, wherein the at least one guaranteed throughput input buffer is configured to store only one unit of guaranteed throughput data at a time.
2. (canceled)
3. (canceled)
4. (original) The data switching device according to claim 2, wherein the data switching device has one and the same output buffer both for collecting guaranteed throughput and best effort data.

5. (original) A data switching method, ~~wherein comprising:~~
scheduling, in one step, guaranteed throughput data for switching, wherein the
one step comprises a reservation of inputs and/or outputs; and
scheduling best effort data is scheduled for switching, characterized in that
wherein the best effort data scheduling is based on a contention free guaranteed
throughput data scheduling.
6. (original) The method according to claim 5, characterized in that the best effort scheduling is performed after the guaranteed throughput scheduling.
7. (canceled)
8. (canceled)
9. (original) The method according to claim 5, wherein the best effort data scheduling takes one or more multiples of three steps, including the steps: request, grant and accept.
10. (original) The method according to claim 9, wherein a contention resolution for said best effort data scheduling is based on bipartite graph matching.
11. (new) A data switching device comprising:
a switching matrix to switch data from a plurality of inputs to a plurality of outputs;
a plurality of multiplexers coupled to the plurality of inputs of the switching matrix;
a plurality of best effort input buffers coupled as inputs to the plurality of multiplexers, each of the best effort input buffers to store best effort data;
a guaranteed throughput input buffer coupled as another input to a first multiplexer of the plurality of multiplexers, the guaranteed throughput input buffer to store guaranteed throughput data; and

scheduling control means coupled to the plurality of multiplexers, the scheduling control means comprising:

guaranteed throughput control means to schedule the guaranteed throughput data for transfer through the switching matrix to one of the plurality of outputs of the switching matrix; and

best effort control means to schedule the best effort data for transfer through the switching matrix to another one of the plurality of outputs of the switching matrix, wherein best effort control means is further configured to schedule the best effort data based on a contention free guaranteed throughput scheduling.

12. (new) The data switching device according to claim 11, further comprising a plurality of output buffers coupled to the plurality of outputs of the switching matrix, wherein each output buffer is configured to collect both guaranteed throughput and best effort data.
13. (new) The data switching device according to claim 11, wherein the guaranteed throughput input buffer is configured to store only one unit of guaranteed throughput data at a time.
14. (new) The data switching device according to claim 11, wherein the best effort control means is further configured to disable best effort requests corresponding to the input of the switching matrix to which the first multiplexer is coupled for a frame during which the guaranteed throughput data is transferred through the switching matrix.
15. (new) The data switching device according to claim 11, wherein the best effort control means is further configured to disable best effort requests corresponding to the output of the switching matrix to which the guaranteed throughput data is transferred for a frame during which the guaranteed throughput data is transferred through the switching matrix.

16. (new) The data switching device according to claim 11, wherein the best effort control means is further configured to schedule the best effort data after the guaranteed throughput control means schedules the guaranteed throughput data.
17. (new) The data switching device according to claim 11, wherein the guaranteed throughput control means is further configured to schedule the guaranteed throughput data in one step.
18. (new) The data switching device according to claim 17, wherein the one step comprises a reservation of at least one input of the switching matrix and or at least one output of the switching matrix.
19. (new) The data switching device according to claim 11, wherein the best effort control means is further configured to schedule the best effort data and three steps, wherein the three steps comprise a request step, a grant step, and an accept step.
20. (new) The data switching device according to claim 19, wherein the best effort control means is further configured to schedule the best effort data using multiples of the three steps.
21. (new) The data switching device according to claim 11, further comprising a plurality of demultiplexers coupled to the plurality of best effort input buffers, wherein a first demultiplexer of the plurality of demultiplexers is also coupled to guaranteed throughput input buffer, wherein the first demultiplexer is configured to distribute data from an incoming data stream to a corresponding best effort input buffer or the guaranteed throughput input buffer.